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Results of the September 11th (second) sampling of the 2006, First-Stubble, Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm at Schriever, LA are attached. The study is designed to examine the natural ripening process and compare the results for the same harvest dates over a 5-yr period (2002 – 2006); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15, hand-cut stalks of clean, trash-free and properly topped cane from each of four replications. **When mechanically harvested, one can expect TRS/TC levels to be 10 to 20% lower as a result of additional trash in the cane.** The study includes eight released Louisiana varieties: LCP 85-384, HoCP 85-845, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, L 99-226, and L 99-233 and one Florida variety, CP 89-2143. The variety CP 70-321 is no longer included in the maturity studies because of declining acreage.
With one exception, stalk lengths and weights are higher than in previous years. Stalk diameters and densities were first reported in 2005. Stalk diameters are similar to the diameters in 2005, but stalk densities are higher in 2006 suggesting that stalk weight increases reflect a 2006 crop with taller and denser stalks. As a reminder, the Ardoyne Farm site received timely rains during June and July when most other areas of the sugarcane belt were reporting some moisture stress. Timely rains have continued to sustain some growth, and to date the varieties have not lodged.

Weather conditions during the 2-week period between the August 28th and September 11th samplings were excellent for the natural ripening of the crop with the average increase in TRS/TC for the four varieties contained in the maturity test since 2002 being 45 lbs. The average TRS/TC is still low when compared to previous years, however. TRS levels for LCP 85-384 increased to 156 lbs. - a 48 lb increase from the last sampling. TRS levels for LCP 85-384 are similar to levels in 2005 and 2002 but still nearly 20% lower than in 2003 and 2004 for this sampling time. The variety L 97-128 continues to have the highest sugar yield (181 lbs./TC) for this sampling, but TRS/TC yields are also 20% lower than those in previous years. Clean and bull-shoot free HoCP 85-845 and the newly released variety L 99-226 are producing recoverable sugar levels that are approaching those of L 97-128. HoCP 96-540 and LCP 85-384 had similar recoverable sugar levels with HoCP 91-555, Ho 95-988, and the newly released L 99-233 having the lowest recoverable sugar levels. The Florida variety, CP 89-2143, has the shortest, yet one of the largest diameter and heaviest stalks of the varieties being evaluated with TRS/TC levels that are significantly lower than L 97-128 and LCP 85-384 and at best equivalent to HoCP 91-555, Ho 95-988, and L 99-233 at this sampling time.

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The third sampling of the maturity test is scheduled for September 25th. Hopefully, weather conditions will continue to be favorable for the natural ripening process and improve TRS/TC levels in response to the application of glyphosate ripeners.

Reminder. If you would like to discontinue your receipt of these reports in 2006 or if you know of individuals who would like to begin receiving this information in 2006, please contact Mrs. Sandy Roberts by email (sroberts@srrc.ars.usda.gov). Emailing insures address accuracy.

Maturity study reports are prepared by Dr. Ed Richard of the USDA-ARS Sugarcane Research Unit.

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, September 11, 2006[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous sample
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS	
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)
LCP 85-384	2006	1.7	86	0.80	1.15	12.84	9.18	71.46	156.2	108.6	47.6
	2005	1.3	72	0.78	1.05	13.28	9.31	70.11	156.5	no data	0.0
	2004	1.5	81	---	---	14.34	10.85	75.55	190.6	148.5	42.1
	2003	1.5	74	---	---	13.97	10.60	75.80	186.4	147.4	39.0
	2002	1.6	78	---	---	12.44	9.20	73.90	159.6	132.4	27.2
HoCP85-845	2006	2.1	81	0.92	1.04	13.13	9.82	74.74	171.3	135.5	35.8
	2005	1.7	76	0.85	1.03	13.86	10.45	75.39	183.2	no data	0.0
	2004	1.8	72	---	---	14.76	11.54	78.14	206.1	175.3	30.8
	2003	1.6	69	---	---	14.32	11.32	79.06	203.5	167.6	35.9
	2002	1.7	73	---	---	12.17	9.18	75.41	161.0	137.2	23.8
CP 89-2143	2006	2.1	79	0.93	1.13	12.53	8.79	70.11	144.89	102.2	42.7
	2005	---	---	---	---	---	---	---	---	---	---
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
	2002	---	---	---	---	---	---	---	---	---	---
HoCP 91-555	2006	1.5	79	0.73	1.22	13.44	8.90	66.18	142.8	90.6	52.2
	2005	1.5	72	0.79	1.07	14.08	9.74	69.18	160.8	no data	0.0
	2004	1.5	82	---	---	14.65	10.41	71.04	175.2	131.8	43.4
	2003	1.4	72	---	---	15.01	11.33	75.38	196.8	171.8	25.0
	2002	1.5	74	---	---	12.77	8.92	69.76	148.2	115.1	33.2
Ho 95-988	2006	2.1	85	0.88	1.15	12.71	8.57	67.42	140.5	93.5	47.0
	2005	1.8	80	0.90	0.99	13.33	9.22	69.14	153.7	no data	0.0
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
	2002	---	---	---	---	---	---	---	---	---	---
HoCP 96-540	2006	1.8	84	0.80	1.22	12.77	8.93	69.83	151.3	118.2	33.1
	2005	1.8	78	0.85	1.04	13.39	9.61	71.72	163.7	no data	0.0
	2004	1.7	77	---	---	14.56	10.89	74.74	191.9	147.5	44.4
	2003	1.7	75	---	---	13.79	10.20	73.93	178.6	160.2	18.4
	2002	1.9	79	---	---	12.28	8.73	70.97	147.8	129.3	18.5
L 97-128	2006	2.1	97	0.86	1.08	14.10	10.35	73.41	180.6	144.9	35.7
	2005	1.8	83	0.81	1.06	14.79	11.02	74.54	193.9	no data	0.0
	2004	1.9	90	---	---	16.03	12.60	78.59	228.0	184.0	44.0
	2003	1.6	79	---	---	15.83	12.45	78.62	225.2	195.9	29.3
	2002	---	---	---	---	---	---	---	---	---	---
L 99-226	2006	2.1	84	0.90	1.11	13.77	9.90	71.82	170.6	120.2	50.4
	2005	2.0	82	0.90	1.04	13.75	9.97	72.51	172.7	no data	0.0
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
(Cont'd.)	2002	---	---	---	---	---	---	---	---	---	---

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous sample
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS	
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)
L 99-233	2006	1.6	90	0.72	1.21	12.93	8.94	69.00	148.9	104.6	44.3
	2005	1.4	84	0.75	1.00	14.39	10.53	73.15	181.5	no data	0.0
	2004	1.4	87	---	---	14.41	11.12	77.04	197.4	140.3	57.1
	2003	---	---	---	---	---	---	---	---	---	---
	2002	---	---	---	---	---	---	---	---	---	---
Averages[5]	2006	1.8	84	0.80	1.19	12.94	8.90	68.72	147.7	102.7	45.0
	2005	1.6	77	0.81	1.05	13.86	10.01	72.13	171.2	no data	0.0
	2004	1.6	82	---	---	14.68	11.06	75.21	194.2	151.3	42.9
	2003	1.6	72	---	---	14.37	10.96	76.09	193.5	164.3	29.1
	2002	1.7	77	---	---	12.31	8.87	72.02	151.4	125.0	26.3

[1] Data for each parameter represents the average of four replications of 15 stalks each.

[2] Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalk sample of each rep.

[3] Brix factor = .8854; Sucrose factor = .8105.

[4] Previous sample date was August 28, 2006.

[5] Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384 HoCP 85-845, HoCP 91-555, and HoCP 96-540).